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EXAMINER

MEEK, JACOB M

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/885,878	Applicant(s) DABAK ET AL.	
	Examiner Jacob Meek	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/20/01, 8/29/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 14, 28 - 35, 60 - 107 is/are pending in the application.
- 4a) Of the above claim(s) 28 - 35, 89 - 107 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14, 60 - 84 is/are rejected.
- 7) ☒ Claim(s) 13, 85 - 88 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/01, 5/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 14, 60 – 88 are drawn to a transmitter, classified in class 375, subclass 267.
 - II. Claims 28 – 35, 89 – 107 are drawn to a receiver, classified in class 375, subclass 316.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions transmitter and receiver are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because there is no specific indication in the claims that the claimed transmitter requires the claimed receiver to be operable. The subcombination has separate utility such as a standalone transmitter, or a standalone receiver.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Ronald Neerings (Reg.# 34,227) on September 22, 2004 a provisional election was made without traverse to prosecute the invention of Group I (transmitter), claims 1 - 14, 60 – 88. Affirmation of this election must be made by applicant in replying to this Office action. Claims 28 – 35, 89 – 107 are withdrawn from

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further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because Abstract is longer than the recommended 50 – 150 words, and seems more detailed than required for summarizing invention. Also, legal phraseology is used in the abstract. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim

term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "output" in claims 60 and 65 is used by the claim to mean "input", while the accepted meaning is "output." The term is indefinite because the specification does not clearly redefine the term. Specifically "the output terminal coupled to receive" is contradictory. It may also be beneficial to identify which specific circuit element are being referred to by the claims in order to facilitate understanding of the claimed invention. To ensure compact prosecution, examiner will attempt to determine applicant's intended meaning and furnish art rejections accordingly for claims 60 – 77.

7. Claim 72 - 74 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 72 - 74 recite the limitation "the channel encoder circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claims 72 – 74 are drawn to claim 70 which does not recite this limitation. Claim 71 appears to be proper antecedent for these claims.

Claim Rejections - 35 USC § 103

8. Claims 1 – 5, 11, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US Patent 6,256,290) in view of Chen et al (US Patent 6,304,581).

With regard to Claim 1, Ramesh teaches a transmitter comprising multiple antennas (see Figure 4, ref 407), where each of the antennas is operable for transmitting signals (see Column 7, lines 36 – 45); for each user channel, circuitry for providing groups of symbols in a

first symbol group sequence (see Figure 5, reference 505, 507, 513, 515, 517-1); for each different user channels, circuitry for forming a first modulated symbol group user channel by modulating the symbols in the first symbol group sequence for the user channel with a unique code (see Column 6, lines 24 – 37); circuitry for combining the first modulated symbol group sequence for each of the different user channels such that a first combined modulated symbol sequence is transmitted by a first antenna (See Figure 5, reference 517-1; Figure 7; reference 403, 701-1, 703-1, 406-1; figure 8, reference 801-1); for each user channel, circuitry for forming a second modulated symbol group sequence (see Figure 5, reference 505, 507, 513, 515, 517-2) for the user channel by modulating the symbols in the second symbol group sequence for the user channel with a unique code (see Column 6, lines 24 – 37); and circuitry for combining the second modulated symbol group sequence for each of the plurality of different user channels such that a second combined modulated symbol sequence is transmitted by the second antenna. (See Figure 5, reference 517-2; Figure 7; reference 403, 701-2, 703-2, 406-2; figure 8, reference 801-2). Ramesh fails to teach the reordering of the second symbol groups. Chen teaches a means for reordering the symbols as known in prior art (see Figure 1, block 127). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to Claim 2, Ramesh teaches the limitations of claim 1 above plus the addition of the code used for the first symbol group is the same as the code used for the second symbol group (see Column 5, lines 17 – 32).

With regard to claim 3, Ramesh in view of Chen teaches the limitations as in Claim 1 plus the addition of time reversal of the second symbol group taught by Chen (See figure 1, ref 127 column 3, lines 3 – 5). It would have been obvious to one of ordinary skill in the art at

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the time of invention was made to utilize this known technique in Ramesh to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 4, Ramesh in view of Chen teaches the limitations of claim 1 plus buffering of groups of symbols for transmission (see Ramesh Figure 5, 513 and column 6, lines 6 – 11).

With regard to Claim 5, Ramesh in view of Chen teaches the claimed invention including the use of two antennas (See Ramesh figure 10).

With regard to claim 11, Ramesh in view of Chen teaches the claimed invention including frequency diversity (see Ramesh abstract) which examiner interprets as synonymous to "frequency division duplex mode."

With regard to Claim 12, Ramesh in view of Chen teaches the claimed invention including the unique code consisting of a product (see Ramesh Figure 5, 515-1) of a Walsh code and a long code (see Ramesh figure 5, 509).

With regard to Claim 14, Ramesh in view of Chen teaches a WCDMA transmitter (see Ramesh abstract).

9. Claims 6 - 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh in view of Chen et al as applied to Claim 1 in further view of Li et al (US Patent 6,721,339).

With regard to Claim 6, Ramesh in view of Chen teaches limitations recited in Claim 1. However, Ramesh and Chen fail to teach the complex conjugation of the second symbol group. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the complex conjugate to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in

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the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to Claim 7, Ramesh in view of Chen teaches limitations recited in Claim 1 plus the additional limitation of Claim 6. Ramesh and Chen fail to teach the negation of first symbol group to create the second symbol group. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the negation of the 1st symbol group to represent an orthogonal coding scheme (see Column 3, 50 – 57 and Eq. 4 and 5). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 8, Ramesh in view of Chen teaches limitations recited in Claim 1. However, Ramesh and Chen fail to teach time division duplex mode. Li teaches that time orthogonality can also be used (Column 3, lines 31 –38), which examiner interprets as synonymous to “time division duplex mode.” It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to Claim 9, Ramesh in view of Chen and Li teaches the limitations of Claim 1 plus Ramesh teaches the unique code consisting of a product (see Figure 5, 515-1) of a Walsh code and a scrambling code (see figure 5, 509). Scrambling code is interpreted as synonymous with long code.

With regard to claim 10, Ramesh in view of Chen and Li teaches the limitations of Claim 9 with the addition of time reversal of the second symbol group taught by Chen (See figure 1, ref 127 column 3, lines 3 – 5). It would have been obvious to one of ordinary skill in the art at

the time of invention was made to utilize this known technique in Ramesh to provide an additional degree of resistance to noise encountered in a wireless environment.

10. Claims 60 – 62, 68 – 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US Patent 6,256,290) in view of Chen et al (US Patent 6,304,581).

With regard to claim 60, Ramesh teaches an input terminal coupled to receive groups of symbols (see Figure 5, 501). Ramesh fails to teach a first output terminal receiving symbols at a first time and second output terminal coupled to receive a third group of symbols consisting of the transform of the second set of symbols. Chen teaches the 1st output terminal for 1st group of symbols (see Figure 1, 120, 125, 129) and 2nd output terminal coupled to receive 3rd group of symbols (see Figure 1, 128, 129) consisting of a transform of the 2nd set of symbols (see figure 1, 126, 127). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 61, Ramesh in view of Chen et al teaches the limitations of claim 60, plus Chen teaches signals are symbols (figure 1, 120 and 121).

With regard to claim 62, Ramesh in view of Chen et al teaches the limitations of claim 61, plus Chen teaches symbols are QPSK (Figure 1, 112 and 115).

With regard to Claim 68, Ramesh in view of Chen et al teaches the limitations of claim 60 plus the addition of a symbol mapper as taught by Ramesh (Figure 5, 513).

With regard to Claim 69, Ramesh in view of Chen et al teaches the limitations of Claim 60 plus the addition of each signal corresponding to 2 bits/symbol (QPSK) as taught by Chen et al.

With regard to claim 70, Ramesh in view of Chen et al teaches the limitations of Claim 68 above plus the different bit sequence as taught by Chen (see column 3, 3 – 5).

With regard to claim 71, Ramesh in view of Chen et al teaches the limitations of claim 70 plus the addition of a channel encoder to produce a 2nd sequence of data bits taught by Chen (Figure 1, 107) where symbol puncture block is interpreted to be a form of convolutional coding.

With regard to Claim 72, Ramesh in view of Chen et al teaches the limitations of claim 70 plus encoding with a convolutional code taught by Chen (see Figure 1, 107).

With regard to Claim 73, Ramesh in view of Chen et al teaches the limitations of Claim 70 above plus Chen teaches block encoding (see Figure 1, 121). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 74, Ramesh in view of Chen et al teaches the limitations of Claim 70 above plus Chen teaches turbo coding (see Figure 1, 103). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh/ Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to Claim 75, Ramesh in view of Chen et al teaches the limitations of claim 60 above plus Ramesh teaches the addition of encoding using Walsh and PN (long) codes (See Figure 5, 507, 515).

With regard to Claim 77, Ramesh in view of Chen et al teaches the claimed invention of claim 75 plus connections to two antennas taught by Ramesh (see Figure 10).

11. Claims 63 – 67, 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh in view of Chen et al in further view of Li et al.

With regard to Claim 63, Ramesh in view of Chen teaches limitations recited in Claim 60 plus Chen discusses the time reversal of the second signal (column 3, lines 3 – 5). However, Ramesh and Chen fail to teach the transform consisting of conjugation and time reversal of the second symbol group. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the conjugation and time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 64, Ramesh in view of Chen teaches limitations recited in Claim 60 plus the additional limitation of Claim 63. However, Ramesh and Chen fail to teach the transform of the second symbol group compromising conjugation, negation and time reversal. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the conjugation, negation, and time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to Claim 65, Ramesh in view of Chen teaches limitations recited in Claim 60 with Li teaching the addition of 1st output terminal coupled to receive 2nd group of signals (see Figure 3, 180, 154, 158) and 2nd out put terminal coupled to receive a 4th group of signals (see Figure 3, 184, 156, 160) at different times (see column 2, 52 – 55).

With regard to Claim 66, Ramesh in view of Chen in further view of Li disclose the claimed invention in Claim 65. However, Ramesh and Chen fail to teach the transform consisting of conjugation and time reversal of the second symbol group. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the conjugation and time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 67, Ramesh in view of Chen in further view of Li disclose the claimed invention in Claim 65. However, Ramesh and Chen fail to teach the transform of the second symbol group comprising conjugation, negation and time reversal. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the conjugation, negation, and time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 76, Ramesh in view of Chen et al disclose the claimed invention of Claim 75 above plus additional of time reversal as taught by Li. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment..

12. Claims 78 – 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US Patent 6,256,290) in view of Chen et al (US Patent 6,304,581).

With regard to claim 78, Ramesh teaches a method for applying a plurality of signals to each of a plurality of encoder circuits (see Figure 5, 501). Ramesh fails to teach producing a first group of signals at a first output terminal of each of a plurality of encoder circuits; producing a transformed second group of plurality of signals at a second output terminal of said each of a plurality of encoder circuits; and modulating the first group and the transformed second group each of the respective plurality of signals by a respective code corresponding to said each of a plurality of encoder circuits. Chen teaches the 1st output terminal for 1st group of symbols (see Figure 1, 120, 125, 129) and 2nd output terminal (see Figure 1, 128, 129) consisting of a transform of the 2nd set of symbols (see figure 1, 126, 127). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 79, Ramesh in view of Chen et al teaches the limitations of claim 78, plus Chen teaches signals are symbols (figure 1, 120 and 121).

With regard to claim 80, Ramesh in view of Chen et al teaches the limitations of claim 79, plus Chen teaches symbols are QPSK (Figure 1, 112 and 115).

13. Claims 81 – 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh in view of Chen et al in further view of Li et al.

With regard to claim 81, Ramesh in view of Chen teaches limitations recited in Claim 78 plus Chen discusses the time reversal of the second signal (column 3, lines 3 – 5). However, Ramesh and Chen fail to teach the transform consisting of conjugation and time reversal of the second symbol group. Li teaches that orthogonality can be accomplished by using different

codes between channels, where examiner interprets the conjugation and time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 82, Ramesh in view of Chen teaches limitations recited in Claim 78 plus the additional limitation of Claim 81. However, Ramesh and Chen fail to teach the transform of the second symbol group compromising conjugation, negation and time reversal. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the conjugation, negation, and time reversal to represent an orthogonal coding (see Column 3, lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

With regard to claim 83, Ramesh in view of Chen teaches limitations recited in Claim 78 with Li teaching the producing a 1st group of signals at an 1st output terminal (see Figure 3, 180, 154, 158) and producing a transformed group of signals at a 2nd output terminal coupled (see Figure 3, 184, 156, 160) and modulating the signals by respective codes corresponding to different groups (see Fig. 3, W_{n1} , W_{n2} , PN, 98 – 108, 130 - 140).

With regard to claim 84, limitations as disclosed in claimed invention of Claims 83. However, Ramesh and Chen fail to teach the transform of the second symbol group compromising conjugation, negation and time reversal. Li teaches that orthogonality can be accomplished by using different codes between channels, where examiner interprets the conjugation, negation, and time reversal to represent an orthogonal coding (see Column 3,

lines 50 – 57). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize this known technique in Ramesh / Chen to provide an additional degree of resistance to noise encountered in a wireless environment.

Allowable Subject Matter

Claims 13, 85 -88 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Limitations of these claims as stated to not to be addressed by art used in this action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kuchi et al (US006542556B1), Allpress (US006392988B1), Solondz (US006259730B1) appear to be closely related to field of invention.

Conclusion

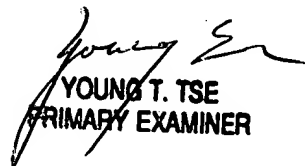
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM


YOUNG T. TSE
PRIMARY EXAMINER